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A. WIRE ENGINEERING SECTION

1. Langley Signal Center 5/10 Year Planning - No change in status.

2. CIFAX -

a. Delivery of the prototype Auto-Sync units and traffic alarm units is expected during the next reporting period.

b. Delivery and test installation of a new Xerox alarm card for the LDX Data Converter is expected prior to delivery of Auto-Sync units.

3. KY-3 -

a. KY-3 Call Director System

1. Training on the KY-3 Call Director System was administered to and completed by the Langley Technical Section. ✓

2. Modifications on the present Call Director System have been established to accommodate additional operational requirements.

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3. [] was low bidder on the fabrication proposal for fifty Call Director Systems. Funds for the contract are available and the award will be made this fiscal year. The first completed units will be available 120 days after the contract has been awarded.

4. ARLS - Initial design and installation data will be due for review in August.

5. MAX-II - The final contract price for MAX-II is \$2,496,375 and includes additional programming and assembly equipment.

6. COINS - Phase I activation is scheduled for mid December utilizing 2400 BPS circuits interconnecting the NPIC and OC-S computers with the DIA store and forward data switch.

7. 360 Remotes - Office of Computer Services has levied a requirement in OC to provide transmission facilities between the IBM360 computers at Langley and eleven remote devices. Two of these circuits will require KG-13 protection. Meetings are being held with OC-S and [] to develop engineering and security standards for installations. 25X1

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8. Station Clock - Engineering aspects of a station master clock are being investigated.

9. Data Systems

a. The Langley Signal Center Voice/Data Circuit Patch Facility specifications have been reviewed by interested offices in OC. There are minor changes to be made before the specs are sent to qualified bidders.

b. Testing arrangements are being made to test the feasibility of utilizing the KY-3 (758C) switch in conjunction with the Rixon SEBIT 36 modem for data transmission.

10. KY-3/NSA Gray Phone Interconnection - The feasibility study of interconnecting the KY-3 758C switch with the NSA gray phone switch continues. NSA will measure the cross-talk in their gray phone switch during the next reporting period. This information is required for technical planning purposes.

11. High Density R-100 Unit - (HD-R100) - The High Density R-100 Unit tests have been completed by OC-SPS. Plans are being formulated to procure and install the HD-R100 in the Langley Signal Center replacing existing passive filters.

12. Revised CSR-5 Manual - The CSR-5 Manual has been revised reflecting various changes which have been made to improve reliability of the unit.

13. KW-7

a. KW-7 Systems Manuals TB-135 have been completed and distributed.

b. Preliminary drawings for a class 5, KW-7 safe have been completed.

25X1 14. TB-69 - New Equipment - This bulletin covers the Test Message Generator, DT-105A; the 24 circuit switchboard, GB/TGC-24; the Universal Alarm Panel, AP-24A; and a method for recording distortion on a telegraph signal line. This bulletin has been distributed.

15. Universal Alarm Panel AP-24A - All 24 units have been placed in stock.

16. CSR-4 - The CSR-4 and CSR-5 are being scrutinized to determine if additional fault correction may be required to increase reliability.

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17. R-20 () Keyer - A minor modification of the R-20 () keyers provide for a much greater degree of reliability. Recent reports indicate that when R-20 () keyers are used with tape relay equipment, it becomes necessary to clean the numbering module stepping switch each day. Three modified units tested on high volume circuits eliminated the need of any cleaning or maintenance of the stepping switch for a period of two months. Cursory RFI checks by WES indicate no change in the RFI characteristics of the R-20 () units. The units will be sent to SP for final testing.

25X1A5A 18. Possible Flexowriter Replacement - Favorable comments were received on the prototype model which has since been returned to [] for phase II (222) completion.

19. HW-28 - No change.

20. BCS Catalog (Teletype Equipment Catalog) -

a. This catalog has been forwarded to the field. Further copies will be forwarded on request.

b. Additional information expanding the usage of this catalog will be forthcoming in the near future.

21. M-28 Stunt Box - The alarm modification kit has been tested and forwarded to the contact office for installation as requested by OC-AD.

22. M-28 Numbering Module - The modified (gold plated) numbering module for low level circuits is operating without malfunction after extensive testing. A token amount of required parts has been placed on order to perform this modification.

23. Teletype Acoustic Material - A new material is being evaluated for acoustically treating Teletype equipment.

25X1A6A 24. Prewired Field Station Teletype Systems - Three systems have been completed by T&I and are being shipped to []

25X1A6A 25. [] Signal Line Filter Box - An R.F. tight signal line filter box has been fabricated and will directly replace the present filter box without modifications. The filters wired into this box are of the light isolator type (R101) versus the passive type filters used in the present installation. Sufficient isolators for four send and four receive circuits have been installed. Additional mounting holes and terminal strips were included to double this capacity if required. This unit will be given to OC-AD for installation during the next reporting period. It is our intent that this

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and it was not possible to evaluate its manual vs. automatic operational characteristics. The unit has been returned to the manufacturer who is aware of the shortcomings and is undertaking the construction of a new transmitter. R&D technical and [] operational evaluations of the Collins 208U-3 (automatic) and Gates HFL-3000 (manual) 3 KW Linear Amplifiers have been satisfactory and these units are being considered for the Standard Communications Equipment List. //

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b. Two Gates multi-mode transmitting exciters (Model SG-75) will be available for R&D and operational evaluation 29 July and 15 August. These are being purchased at a cost of \$5,000 each (unit cost quoted for lots of 100). This unit if acceptable, will provide in one unit performance now required of an KFX FS keyer, PMO RF oscillator as well as the exciter proper (SBE, GPE, SH-70 etc.). As the SG-75 will probably not be available in quantity before 1967, 41 Gates SG-70 exciters have been ordered to meet current requirements. ✓

c. Modifications to Kahn LSSB-63-1A exciter power supplies (removing RF "spikes") have been incorporated by the manufacturer. The carrier interfering "spikes" have been eliminated, but proper exciter RF output levels have not been provided. Other deficiencies in the product are still evident and T&I is not able to accept the exciters. It is planned to enlist recommendations of R&D to determine what can be done to improve the mechanical and operational shortcomings.

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d. Performance of [] "Mini-Loop" (1 KW transmitting) and PNA-7A, polarization diversity receiving, antennas were observed. The PNA-7A antenna performs well. Procurement action has been initiated to obtain one PNA-6A to determine its use in improving traffic reliability in connection with a proposed [] system evaluation of our FSK/SSB-MUX circuitry. The PNA-7A is a collapsible version of the PNA-6A. 25X1A5A1

12. Modification Work Orders

a. MWO 102-2 was prepared for distribution. This is an upgraded MWO which corrects several errors within the context of the original, and describes the replacement of a bleeder resistor (80 K ohms @ 50 watts) in the power supply of the PAL-350 Linear Amplifier to prevent failures which have become chronic.

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b. MWO 105-2 was also prepared which provides a remedial method for overcoming low voltage diode rectifier failures in the HFL-1000 Linear Amplifier power supply. An additional MWO is being published to explain need for 10,000 PIV diode replacements when factory installed high voltage (2700 V) diodes (6000 PIV) fail. All areas have been informed of these MWO's and requested to advise the number of failures experienced in this equipment.

13. All areas have been informed that 204C (5KW) Linear Amplifiers have been received with mis-labeled connections, which can lead to improper re-connections when a power supply reactor is installed (the reactor is removed for shipment).

14. Tri Services Receiver - is 25X1A5A1 designing a replacement for the 51S-1 receiver which will feature digital tuning, but can be used to function in every respect as a general purpose receiver. Additional sensitivity, improved front-end intermodulation rejection, manually controlled BFO, etc. will also be provided and is expected to be priced competitively with presently available receivers.

D. Attachments:

1. TDY Report
2. Memo - Project Report of South Viet Nam
Secure Voice Study

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